

AMENDMENT TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A CO₂ incubator for incubating a culture medium comprising:
a housing having an interior divided into at least two separate incubation spaces by a partition and a respective door for opening and closing entry into each of said incubation spaces;

CO₂ gas concentration detection means for separately detecting a CO₂ concentration in each of the plurality of incubation spaces,

air-agitating blower for agitating the air in the plurality of incubation spaces to make uniform the state of the air in each said space,

a measurement air sampling tube and a first multi-position valve for selectively communicating the air sampling tube with the inside of each of the incubation spaces,

a measurement air return tube and a second multi-position valve for selectively communicating the air return tube with the inside of the incubation spaces,

a pump for sucking a part of the air in the plurality of incubation spaces into the measurement air sampling tube, and returning the air to the incubation spaces through the measurement air return tube after being taken by the CO₂ gas concentration detection means,

CO₂ gas concentration setting means for individually setting a desired CO₂ gas concentration to be present in each of the incubation ~~space~~ spaces,

CO₂ gas supply means and a third multi-position valve for selectively supplying a CO₂ gas into each of the incubation spaces, and

a control means for controlling the CO₂ gas supply means operations of proportion, proportion and integration, or proportion and integration and differentiation on the basis of a deviation between the detected CO₂ gas concentration and the set CO₂ gas value to calculate a CO₂ gas supply time per unit time to the incubation space and a stop time, wherein said proportion operation calculates a control amount in proportion to the deviation for reducing the deviation, said integral operation calculates a control amount for reducing an integrated value of the deviation, and said differential operation calculates a control amount for reducing a differentiated value of the deviation; and

the control means individually controls supply of CO₂ gas to each of the incubation ~~space~~ spaces from the CO₂ gas supply means in accordance with the calculated supply time and stop time.

2. (Original) The CO₂ incubator according to claim 1, wherein the CO₂ gas concentration detection means is constituted of a CO₂ sensor using infrared rays.

3-5. (Canceled)

6. (Previously Presented) The CO₂ incubator according to claim 1, wherein a plurality of incubation spaces are disposed in the incubator and

the control means selects the gas in any incubation space, detects the CO₂ gas concentration of the selected gas by the CO₂ gas concentration detection means, and controls the supply of the CO₂ gas to each incubation space in accordance with the detected CO₂ gas concentration.